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ABSTRACT

Four papers originating from the Kesher project, a project in Israel involving the construction, implementation, and scientific evaluation of an original Hebrew language intervention program for preschool (ages 0 to 6) children with hearing impairments, are presented. The four papers included are: (1) "Language Intervention in Prelinguistic and One-Word Stage Hearing-Impaired Children" by Dalia Ringwald-Frimerman and Esther Dromi which presents the theoretical framework and main goals for assessment and intervention in the Kesher program; (2) "The Implementation of 'Kesher' in the Micha Centers in Israel" by Sara Zadunaisky and Hagit Bar-Lev which discusses key issues in the implementation of Kesher, notes inservice training, and describes Kesher materials; (3) "Parents' Expectations from Intervention with Preschool Hearing Impaired Children" by Esther Dromi and Sara Ingber which reports on a study of 50 parents of children participating in Kesher; and (4) "Utilizing a Parent Questionnaire for the Assessment of Prelinguistic Communication in Hearing Impaired Children" by Esther Dromi and others which reports on a study testing such a questionnaire with Kesher parents. Figures and tables are appended. (Individual papers contain references.) (DB)

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ED 391 333

"Kesher" - A Language Rehabilitation Program
for Preschool Hearing Impaired
Children in Israel

שפה לילדים לקויי שמיעה

SYMPOSIUM

LANGUAGE INTERVENTION WITH PRESCHOOL HEARING IMPAIRED CHILDREN IN ISRAEL

Coordinator: Esther Dromi, Ph.D.

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"Kesher" is funded by: The Israeli Ministry of Education, Special Education Division, Curricular Development; Micha - Society for Deaf Children - National Council; The National Insurance Institute - The Fund for the Development of Services for the Handicapped.

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LANGUAGE INTERVANTION WITH PRESCHOOL HEARING IMPAIRED CHILDREN IN ISRAEL

Esther Dromi

In this symposium we will present a large scale research project that is currently conducted and involves the construction, the implementation, and the scientific evaluation of an original Hebrew language- intervention program for preschool hearing impaired children. The program is designed for application with all identified hearing impaired children in Israel between the ages of 0-6 years old, who are enrolled in the different Micha centers all over Israel. The program has been developed in an on-going collaborative efforts of a group of researchers at Tel Aviv University, and language clinicians, educators of the deaf, and other members of the professional staff at the Micha centers in Tel Aviv, Jerusalem, Haifa, Beer-Sheva and Tveria. Our project: "KESHER", started during the academic years of 1989-1990, and was planned to be developed in stages throughout several years.

The development of the theoretical concepts, learning materials, and intervention strategies in "KESHER" are immediately followed by the experimental implementation of the program in the educational field for the purpose of gathering feedback, which is then used in improving the products as well as the processes we are developing.

Four teams are involved in "KESHER" activities:

a) a team of program developers, b) a team of instructors and field coordinators, c) a large team of clinicians and teachers who implement the programs, and d) a team of researchers who conduct empirical formative assessments of the products and processes, as well as research studies on issues which are directly related to the development of our programs.

The symposium includes four presentations. They were selected in order to reflect the multifaceted nature of "KESHER" activities.

LANGUAGE INTERVENTION IN PRELINGUISTIC AND ONE-WORD STAGE HEARING-IMPAIRED CHILDREN (HIC)

Dalia Ringwald-Frimerman and Esther Dromi

1. Background

This paper presents the theoretical framework and main goals for assessment and intervention in "Kesher". We will focus here on the prelinguistic and the one-word stages of language development. The naturalistic approach was adopted by us for setting our goals for assessment and intervention. The naturalistic approach has gained theoretical support from studies on pragmatics which highlighted the importance of context in normal language development. It emphasizes flexibility in accommodating the contents of teaching to child's real-life experiences. The proposed intervention program was developed with the premise that HIC can develop rich and flexible language by similar processes that have been described for normal language acquisition. The dialogue is our basic unit of language intervention, and we emphasize the importance of turn-taking even in the very early periods of intervention.

2. A language intervention model for the prelinguistic stage

Prelinguistic HIC are defined by us as children who have not yet reached the level of producing 10 comprehensible different lexical items, that is, 10 conventional words or 10 conventional signs. The major goal of intervention at this early stage is to help the HIC to develop prerequisite communicative skills for language learning that are needed in order to become active participant in a conversation. The coordination of the communication between the child and his/her interlocutors, mainly the parents, appears to be very important at this early stage.

Recent literature shows that the establishment of certain dyadic patterns of interaction begin at three months of age and continue to develop throughout the first year of life (Papousek & Bornstein, 1992). These patterns include, for example, dyadic vocal imitations and the development of shared reference. During the communicative exchanges between the adults and the infant, the infant's knowledge on the relationships between form and function in language is constructed. Some researchers have pointed out that mothers relate in a meaningful way to the vocalizations of their hearing infants (Bloom, 1983; Veneziano, 1988). However,

dialogues between hearing mothers and HIC seem to be characterized by more instructive dialogue patterns that include long turns, ignoring the infant's attempts to raise a topic, and by the application of many questions and commands. From naturalistic investigations of the interaction between deaf mother and their deaf infants we have learned that the interaction style of deaf mothers is close related to that of hearing mothers of hearing infants, and that it is different from the interaction patterns observed for hearing mothers and deaf infants (Spencer & Gutfreund, 1990; Ackerman, Kyle, Woll & Ezra, 1990; Harris, Clibbens, Chasin & Tibbitts, 1989).

As we strongly believe that proper interaction patterns which are balanced and mutual between the adult and the HIC, set the stage for early language development, we direct our initial intervention efforts toward reaching this goal. During this phase of the program we work with parents as well as clinicians who interact with the HIC. We try to assess and to modify their interaction patterns according to each child's needs and communicative capabilities.

Four major domains of intervention in the prelinguistic stage are outlined below: (a) dialogue (discourse) structure; b) communicative functions; (c) modes of communication; and (d) language - exposure, comprehension, and production.

Figure 1 about here

The language intervention model for the prelinguistic stage

a) Discourse structure: The main components of discourse structure are: initiation, turn-taking and termination. These components occur in dialogues between mothers and infants long before the appearance of the first comprehensible words. Adults' dialogue strategies are modified to increase attentiveness to HIC's initiations to provide contingent responses to such attempts, and to imitate the child's communication behaviors. We guide adults how to promote dual imitations in conversation-like structures.

(b) Communication functions: Research on hearing children shows that prior to the emergence of the first words, children express by gestures and intonation various communicative intents. In our model of intervention we included some prerequisite skills for developing communicative functions. These skills : eye contact, joint attention, and joint action serve as initial targets for training.

When this goals are achieved we move to more developed goals such as: protodeclerative, protoimperative, interactional, heuristic - informative responses, and emergence of symbolic play (Dore 1978).

(c) Modes of expression: In this domain we include those targets for intervention that are related to the expression and comprehension of language. In "kesher" we strongly believe that the two modalities: the oral and the manual, should be encouraged during the prelinguistic stage. We think that all HIC will benefit from training that will develop their productions in the vocal as well as the sign communication. We also hold the position that identifying specific targets for intervention in each modality should be based on the child's individual characteristics of the degree of hearing loss, the cognitive development, the rate of progress, and the family attitudes and belief systems.

(d) Language: exposure, comprehension, production:

Exposure - We strongly encourage parents and teachers to expose young HIC to words, to short sentences in immediate context, and to various language forms, as well as to repetitive language and routine forms. We emphasize flexibility and grammaticality in the language addressed to the child, and we include contextual support for enabling the HIC the best circumstances for understanding the language code.

Comprehension - near the end of the prelinguistic stage, we begin to expect from our pre-linguistic HIC comprehension responses to everyday, simple words, and to simple sentences or routine phrases. Comprehension responses usually precede spontaneous production in hearing as well as in HIC. We believe that it is important to draw the attention of teachers to the importance of setting goals for comprehension and not only production.

Production - Towards the end of the prelinguistic stage we anticipate the emergence of the first comprehensible productions. As research indicate initial lexicons contain words for objects, words for actions, and social words. We examine the early productions of HIC by looking at their attempts to consistently produce gestures, signs, and vocalizations.

When hearing and HIC start to produce systematic words or signs in repeated contexts - their productions become comprehensible lexical items that their parents

and clinicians understand. This important attainment constitutes evidence for the acquisition of symbolic functioning. In the transition to the one-word stage, the child has to develop the notions of conventionality and arbitrariness of language (Veneziano 1988). During the one-word stage children start building up their productive lexicons via processes of differentiation and elaboration of meanings. At the same time, other developments appear in the child's overall symbolic functioning (e.g., differed imitation, symbolic play, classification, number). In this stage the child's already existing ability to express communication intentions is improved by the addition of new means -- linguistic symbols. In our model for intervention during the one-word stage we focus on the symbolic functioning of the child as the main target for intervention. The groundwork for our model was laid by researchers in the area of normal language development who reported on the underlying dynamic processes of acquiring word meanings and pointed out the universal characteristics of early lexical development (e.g. Dromi, 1987; Gillis, 1986; Barrett, 1986).

There are five major domains in our intervention model for the one-word stage: (a) extra-linguistic cognitive symbolic representation; (b) graphic representational systems; (c) linguistic symbolization - lexical differentiation; (d) communication - discourse structure, input characteristics, and communication intentions; and (e) modes of communication.

Figure 2 about here

The language intervention model for the one-word stage

(a+b) Extra-linguistic symbolic functioning and systems of graphic representation: The transition from the pre-linguistic stage to the one-word stage is accompanied by some parallel developments in non-linguistic symbolic functions. Here, we emphasize certain important functions: symbolic play, differed imitation, classification, and the concept of number. HIC might show a gap between the development of linguistic and nonlinguistic symbolic functions. The content and targets of language intervention should be based on the child's current cognitive ability while not underestimating his/her overall capabilities. The nonlinguistic

domains are themselves targets for intervention, but at the same time, they also provide contexts for language learning.

The program also takes into account the development of graphic representations. Three systems are mentioned here: drawing, emerging literacy, and written representation of numbers. Time is too short to elaborate further, but we would like to mention that recent research has shown that children who grow up in a literate environment begin to learn the characteristics of written language very early (Ferreiro & Teberosky 1982; Sulzby & Teale, 1991). We try to provide a visually stimulating educational environment to HIC, especially as it is well documented that such an environment is constant and stable and thus easily accessible to HIC.

(c) Linguistic symbolization:

Lexical symbols: we propose to analyze early lexicons according to their grammatical categorization in adult speech (e.g. nouns, verbs, adj. and functors) as well as with relation to their semantic contents (e.g. words for habitual activities such as eating and taking a bath, words for different kinds of food, furniture, transportation, tools etc.).

Processes in lexical development: While the previous column views the child's lexicon in view of the adult grammar it is important in our opinion to direct educators to the child's lexicon as it is constructed from the child's point of view. We use as a guidelines the lexical acquisition processes, which have been discussed in the literature on early lexical development by hearing children (e.g. Dromi, 1987; Lucariello & Nelson, 1986; Goldfield & Reznick, 1990; Dromi & Fishelzon, 1986; Harris & Barrett, 1989). We train our teachers and parents in identifying these processes in our HIC.

* CONTENT CATEGORIES - Here we refer to the ways the child is using the same word over time in the same or different contexts. We want to learn how the word is used by the child, and to which aspect of the real world the word refers. We classify each word as belonging to the category of object words, action words, relational words, social words or indeterminant (e.g. the word "eat" for eating as well as for food).

* EXTENSION CATEGORIES - young children very often use their words very differently than adults do. By comparing the range of child's word meaning

with that of the adult meaning we identify several relations: regular extension, underextension, overextension or unclassified. These relations are defined according to the degree of overlap between the scope of child's word meaning and the scope of the adult's word meaning. In evaluating the lexical abilities of HIC, it is important not only to count the number of different words, but also to identify the patterns of their extension and how it changes over time.

* HORIZONTAL AND VERTICAL PROCESSES IN LEXICAL DEVELOPMENT - Horizontal lexical learning is characterized by acquiring words from different semantic fields such as toys, food, family members etc. Vertical development is a parallel process in which the child expands his/her lexicon in each semantic field. We propose to facilitate these two processes of word learning during the one-word stage. A reach enough one-word stage lexicon will be the outcome of these two learning processes.

*DECONTEXTUALIZATION - two kinds of meaning representations co-exist during the one-word stage: categorical representation, which is characteristic of adult language, and schematic representation of meaning, which is more holistic and is usually acquired in routine, and repetitive daily situations. During the early phases of production the child may use a word to represent an unanalyzed situation, she/he might say "ga-ga" when playing with a duck in the bath but not on other occasions of seeing a picture of a duck in a book or seeing a real duck. The decontextualization process occurs when the word meaning is separated from the specific situation in which it was learnt, and becomes less context bound. The process of decontextualization is very important because it represent the progress of the child in mapping word meanings. In our project, we introduce to the teachers and parents measures and other means they can be used in order to follow the development of their HIC's word Extension. We strive to establish in our HIC lexical developmental processes that will enhance their word learning. We believe that in evaluating HIC's lexical abilities during intervention, and in choosing the intervention goals and strategies a special emphasis should be put on processes in learning.

The context of intervention is crucial for building a flexible productive lexicon. Therefore, the context of intervention is so important. The conversation as

a basic unit applies to our language intervention during the one-word stage, as much as it did during the prelinguistic stage. In the figure we see the pragmatic domain "pushed up" by the symbolic domain. However, it still continues to provides the fruitful context of intervention. In addition, the targets of intervention in the pragmatic domain are elaborated.

To summarize, In moving from the prelinguistic stage to the one-word stage the search for the meaning of conventional words becomes one of the most important goals of HIC and their caretakers. This goal is realized in the context of conversation, which remains the basic unit of intervention. Everyday and routine situations, which enhance the generation of schematic representations are useful contexts for learning new words. It is important that the exposure to language as well as the teaching of new words will take place in naturalistic environments and throughout on-going interactions. We hope that by focusing more on processes rather than products, our goal of establishing flexible and productive lexicon will be reached.

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THE IMPLEMENTATION OF "KESHER" IN THE MICHA CENTERS IN ISRAEL

Sara Zadunaisky and Hagit Bar-Lev

In this presentation we will discuss the key issues related to the implementation of the language intervention program KESHER in the educational frameworks of the MICHA centers over Israel.

First, we will describe the structure of the instructional model for implementing the language program. Then, we will illustrate some of the clinical and instructional materials developed and published to support and facilitate the successful application of procedures by clinicians, parents and teachers.

As mentioned, KESHER is an experimental theoretically - based Hebrew language intervention program currently being implemented in the MICHA educational centers in five major cities in Israel: Jerusalem, Tel Aviv, Beer Sheva, Haifa and Tiberias.

Our program was designed for all very young HIC enrolled in these children and their families participated in the program.

The program takes into account the structure of the centers. Each center has an educational director in charge of a professional team that is composed of clinicians, educators of the deaf, audiologists, psychologists, social workers and occupational therapists. This academic year about 50 professionals from all over Israel participated in our project.

The experimental implementation of KESHER required the planning of an in-service training program with the following goals:

1 - To introduce theoretical concepts and to discuss theoretical issues that are related to the early stages of language development in normal and HI population.

2 - To present and discuss the implementation of clinical diagnostic tools with HIC; for instance, the introduction of measures and questionnaires developed in KESHER for evaluating the communication skills of very young HIC's.

3 - To present and discuss topics related to the application of language intervention procedures with young HIC within the naturalistic model approach to language intervention.

4 - To present the clinical materials developed in KESHER to support the intervention model in order to encourage on - going interaction between parents and clinicians and very young HIC.

The implementation of KESHER in the five educational frameworks involves a number of functions:

* Project instructors / supervisors
* Team of co-ordinators
* Professional staff at the educational center - language clinicians, teachers of the deaf and others.

The different teams involved in the implementation of KESHER program are presented in figure 3.

I would like to mention the different roles played by each of these teams, as well as the relationships between them.

The project instructors includes clinicians and graduate students at Tel Aviv University, who have also participated in the development of the program.

The instructor's roles are:

1 - To develop an implementation program based on theoretical material, diagnostic tools and instructional materials proposed by KESHER and to introduce it to the professional staff at the education centers.

2 - To organize different instructional activities to encourage clinicians and other professionals at the centers to apply the KESHER program during their everyday work.

3 - To gather feedback from the professionals and parents participating in the KESHER program for the purpose of revising and improving the tools.

4 - To prepare and train the team of program coordinators.

The program coordinators are highly experienced clinicians or language teachers who hold permanent positions in the educational centers. They do their KESHER activities alongside with their other daily tasks at the centers. he coordinator's roles are:

1 - To support the implementation program in the center's everyday routines and to encourage the professional staff to apply the intervention principles developed in KESHER.

2 - To assist the professional staff in modifying the language program to the needs of specific HIC's and their families. The heterogeneous nature of MICHA's population necessitates an individually - oriented language intervention program. The coordinator works together with the clinician to individually tailor the program to the needs and capabilities of each family.

3 - To encourage the use of materials and stimuli proposed by KESHER while gathering appropriate feedback.

In this way, coordinators play an important role in representing the particular needs of the professionals in the center where they work.

Last but not least, great efforts are directed towards the instructional role played by the educational staff at each center. This team has a crucial and central role in putting the project into practice. They work directly with the HICs and their families, thus "giving life" to the project. As their experience with KESHER increases, their feedback helps us improve the design of our language intervention program.

The various functions thus far described, and especially the relationships among them, are very crucial for the success of the project. The implementation program ensures, on one hand, that the unique needs of each center are represented and transmitted to the team of program developers, and on the other hand, that intervention strategies and theoretical terminology become unified among all the professionals at the MICHA centers all over the country.

The KESHER program is being implemented gradually in the educational centers, via a long - term complex and dynamic process, and it must be adapted to the individual requirements of each educational center as well as to the changing needs of the professional staff.

In order to introduce KESHER's concepts, strategies, and techniques to the professional staff of MICHA, a number of concurrent activities have been designed. All of these activities take place concurrently within the training program. Among these we would like to mention the preparation of reading materials, participation in

workshops and group discussions, organization of one - day seminars, and directly supervision of the clinicians who interact with the HIC during on - going intervention.

In the remaining time we wish to share with you some of the materials that we have developed in "Kesher" in order to facilitate clinicians', teachers', and parents' use of our theoretical concepts and ideas.

It should be stressed that all the materials we have developed so far are experimental and we are conducting on-going formative evaluations in order to test their applicability.

All the instructional material have been used in all MICHA centers. Some materials are theoretical publications that were written in the project for explaining the rational and justification for intervention. For example, this is the first in a series of books that has been published about the model of intervention. This book is entitled:"Communication and language intervention for hearing impaired children: The prelinguistic stage". The book summarizes the academic work of the program developers, and will be used as theoretical resource by teachers, clinicians and parents.

Another good example of a theoretical material is a manuscript that deals with parents' integration into the language program. It introduces the main theoretical issues as well as summarizes research on the policies and practices of integrating parents of hearing impaired children in the process of language intervention.

In order to assist work according to our intervention goals and strategies we have developed some instructional aids, e.g. diagnostic tools, a list of recommended activities, a set of toys and games. One example is a set of pictures focusing on common situation in baby's daily routine- the feeding situation. This set of illustrations include pictures of objects, pictures of the objects embedded in the situation, a sequence of four pictures story, and a picture depicting several situations within the feeding activity.

We also acquired, for every clinic and kindergarten, material to facilitate communicative activities. These includes toys and games similar to those that are

usually present in the baby's home, toys for encouraging symbolic play, e.g., telephones, miniature furniture, doctor set, a set of vehicles, small dolls, etc.

As was mentioned earlier the project is highly oriented towards the whole family. In order to enhance the communication between clinicians and parents we have published brochures and leaflets setting out the program's concepts on family counseling, audiology, early language and communication. All of these materials were written by the developers of the program, and it is the first time that such information is available in the Hebrew language.

In Kesher we strive for differential implementation of the program according to the uniqueness of each family and each educational center. At the same time, we wish to maintain equality under dissimilar conditions. Our goal is to establish a shared language between the professional staff in the different centers. We try to achieve this objective by disseminating the same materials to all Micha centers and by using the same terminology in the written and the oral presentations of the program. This attempt can be illustrated with the example of the diagnostic tools of pre-linguistic communication of HIC. The assessment is now conducted in all the centers by the following three instruments: (1) parent questionnaires ,
(2) a diagnostic tool for the language clinicians and (3) a tool for analyzing the parent-child interaction. These tools give broad information about each child and serve all clinicians and teachers in setting goals for the intervention with individual subjects.

In Kesher we develop materials as aids not as a "cookbook" or bookshelf canned program. We hope that our materials will illustrate the programs' procedures, goals, and principles. We hope to encourage clinicians and teachers to continue and develop on their own more materials for the children and parents with whom they interact. For example, we did not list all the activities we thought are suitable for achieving goals, but suggested instead a few good examples to help the professional staff to develop their own activities. The activities cards are a good example of how the professional staff are encouraged to create their own activities in line with the examples. The activity cards box consists 180 cards for the prelinguistic stage which are organized according to the four dimensions of the intervention model.

We have tried to illustrate in this paper how by the incorporation of educational materials, as well as the implementation of in-service training we attempt to modify language intervention with Israeli young hearing impaired children and their families.

PARENTS' EXPECTATIONS FROM INTERVENTION WITH PRESCHOOL HEARING IMPAIRED CHILDREN

Esther Dromi and Sara Ingber

The education and rehabilitation of hearing impaired children like that of other handicapped children, is not a matter that involves only the child. Recent literature emphasizes the importance of the family in the rehabilitation process and stresses the significant role of the family environment in the child's emotional, social, cognitive, and linguistic development. Bronfenbrenner (1974) was among the first researchers who formulated the position that parents have a cardinal role in raising the achievements of their handicapped child. He pointed out to the many benefits of including parents in the rehabilitation process. Throughout the years, the family's role has increasingly become more and more important in the intervention process. In recent years, parents are regarded not only as a recipients of professional guidance and counseling, but also as active participants in the planning and implementation of early intervention programs. Research findings have indicated that parental involvement has a positive effect on language acquisition (Lombardino & Mangan, 1983), behavior regulation (Bidder, Bryan & Gray, 1975), and motor development (Gross & Drabman, 1982 in Harbin, 1993). Heinicke (1993) and Davis (1985) have shown that parents who participated in intervention programs developed more positive emotional responses to the needs of their handicapped child, had better spontaneous communication with the child, and contributed to their child's development and progress more than parents who had not participated in such programs .

The collaboration between parents and professionals is not a simple matter. Parents and professionals bring to the intervention program different perspectives, different goals and different expectations. This reality opens up a set of major questions which need to be explored and better understood.

In planning and implementing early language intervention programs with very young HIC, it is very important to take into consideration the needs of the family as a whole. Bernstein and Barta (1988) reported that programs for hearing impaired children and their families are generally designed on the basis of what experts believe they should contain, rather than on the basis of what parents believe they

wish to get. For example, both Barta (1985) and Conway (1984 in Bernstein & Barta 1988) found that families that received information about the development of their child's hearing and language, in fact, preferred to get help with regards to discipline problems. These results indicate that in order to close the gap between professionals and parents we need to better understand what are the needs of parents with whom we wish to collaborate in the intervention program.

This presentation reports on a study in which we investigated the actual expectations of parents of young hearing impaired children who participated in "Kesher". We studied our parents' expectations from the intervention program as a whole, and from the professionals who provide rehabilitation services to them. We were hoping that the present investigation will foster our attempts to collaborate with parents and to better meet their various needs. We hypothesized that by better understanding the expectations of parents, we will be more effective in creating programs of intervention that will help parents to deal with the wide range of emotional and daily living issues that are involved in raising a hearing impaired child.

Our sample consisted of 50 hearing mothers of hearing impaired children ranging in age from 3- 5 years old, who attended three of the MICHA preschool programs in Israel. About half the mothers were of Middle-East origin; more than a quarter were of European origin; and somewhat less than a quarter were born in Israel. All mothers used Hebrew as their primary language. 60% of our subjects were educated in an oral communication method and 40% in a total communication method, the number of boys and girls in this sample was equal.

The data were collected by three means:

1) Two open questions in a written format were given to the mothers in order to get free descriptions of expectations.

2) A set of 6 questionnaires were administered in order to get background information on various family factors.

3) A 40 minutes personal interview was administered with each mother by myself, the educational counselor of MICHA Tel Aviv.

The rich body of information that we have collected from each mother was transcribed and analyzed in order to identify those categories that were shared by all

mothers. We adopted the qualitative model of analysis in preparing our analysis scheme. In other words, only after a close examination of a pilot set of results we created a coding system that reflected the expectations of the parents in our sample.

Our initial examination of the data revealed that we need to look separately at two major categories of expectations: The expectations from the intervention program itself and the expectations from the professionals who provide the services. In each of these categories we identified six sub-categories, each of which consisted of 3 to 15 variables. We will report today only on those expectations that were mentioned by at least 45% of the mothers in our sample.
In figures 4 and 5 these data is graphically presented.

The expectations from the intervention program

Almost all of the mothers asked to receive information. Most of the mothers asked about information that is directly related to their child's hearing impairment: * audiology and hearing aids, *language development, * types of schools that are available for hearing impaired children in Israel, and* information on the general development of hearing impaired children.

Most mothers expected to get professional guidance on a range of practical matters. They wanted guidance about: * how to teach their hearing impaired child language, and * how to up bring their child and take a good care of him/ her.

Most of the mothers expressed a need to get emotional support. They were hoping to have: * opportunities to meet other parents of hearing impaired children, * family counseling. and * familiarity with the world and culture of deaf people.

Most of the mothers also had expectations about the structure and organization of the intervention. They wanted * a clear idea of the stages of the intervention program, and all so asked that * the program be designed according to their own needs, including such issues as their emotional state and personal circumstances. Mothers asked for * well structured program that will be planned to address general goals first and more specific goals later, and expressed the desire to attend * lectures as well as to participate in * small group discussions.

With regard to sequence of the components in the program, mothers asked to * clarify their own expectations with professionals before designing the

intervention for the child, to get * a full report on the child progress during the intervention, and that * clinicians will regularly report to them on the progress of their children, and *what are the mutual future expectations.

With regard to the issue of who should be placed at the focus of intervention, most mothers stated that * the entire family rather than only * the child should be considered 'the client' of intervention. Some mothers suggested that the intervention should be extended to *the entire community with guidance given to teachers, social workers, and other community employees who deal with the hearing impaired child and/or his family.

Relatively few mothers mentioned the following services and facilities for the hearing impaired child and the family, probably because they are not directly connected with the intervention program: * transportation to MICHA. * a lounge for family members. * ongoing maintenance of hearing aids. * out of school activities.

The expectations from the professionals

In this area mothers' expectations ranged from those having to do with counseling skills to those having to do with the type and regularity of meetings.

The mothers expected the professionals to possess the qualities and interpersonal skills that generate good counseling. Mothers mentioned * openness and readiness to listen; *caring, sensitivity, and consideration; * supportiveness; * empathy and understanding, * candor and genuineness, *warmth and acceptance.

Most of our mothers also expected professional expertise. We found out that many mothers want the professionals * to possess expertise in counseling and to be successful in *delivering to others information and skills that are needed in the rehabilitation of their hearing impaired children. Mothers expected the professional to have * a didactic experience for teaching academic topics, and to be dependable individuals, so that they could * rely on them at periods of difficulty with their children's hearing rehabilitation. As one mother expressed it: *"Someone who will help me in all the uncertainty and confusion, who will be at my side when I need*

him, will answer my questions, and who I feel I can always turn to and he'll always be there for me."

Most of the mothers expected cooperation with the professionals. Most mothers expected the professionals * to consult them in designing the intervention program for their child, * to be open to receive information from parents, and *to report to them on their child progress. Half of the mothers wanted the professionals * to legitimize their own selection of a rehabilitation program for their child. They said that they know best what suited their child's educational needs and the whole family. As one mothér put it:"*I want to decide what suits my daughter, to find the dosage and balance, and I don't want to feel guilty when I don't do what the professionals advise.*" Similarly, our mothers wanted the professionals to allow * a bi- directional flow of information, with the professional providing the parent with some information and is also open to get information about the family and child from the parent.

With regard to the regularity of meetings between the parent and the professional, most mothers wanted the professionals * to be available whenever they need them, while some expected * regular pre -planned, scheduled meetings.

Many mothers expressed a wish that * the language clinician will be the contact person for them to consult with in the rehabilitation center, some mothers preferred that * the nursery school teacher will be the one who keeps regular contact with them, and who informs them on the progress of their child.

In summary, the Israeli mothers in this study expressed a wide range of very clear and distinct expectations from the intervention program and the professionals who run it. Whether or not their expectations are generalizable to parents in other countries remains to be explored. The very existence of such expectations, however, strongly indicate that we - the professionals in the field - should seriously consider the needs specified by parents. We find it particularly important to attend to the mothers' strong intent to be considered true partners in the bi-directional model of intervention program, and to help us select the goals for intervention. Our results indicate that family intervention programs should deliver information to parents about various matters relating to hearing impairment, as well as practical guidance

in general skills that parents need in the challenging task of raising a hearing impaired child. The mothers' need for emotional support, both from the professionals and through meetings with other hearing impaired children and their families should be also addressed in planning intervention programs for young HIC and their families.

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UTILIZING A PARENT QUESTIONNAIRE FOR THE ASSESSMENT OF PRELINGUISTIC COMMUNICATION IN HEARING IMPAIRED CHILDREN

Esther Dromi, Amatzia Weisel and Hadas Treitel

Most of the scientific information on the communicative development of prelinguistic hearing impaired children is based on data from longitudinal direct observations of a very small number of subjects. This methodological approach enables observing and describing in detail communicative and linguistic behaviors. However, it is lacking in two important respects:
(1) observation of a single child cannot always be generalized to a large number of subjects, and (2) it does not permit an analysis of inter-individual variations. Therefore, in the past decade, several attempts have been made to develop means for assessing early communication and language in large groups of hearing children.

The use of parent questionnaires or interviews permits the collection of a great deal of information on a large number of subjects without the need for trained observers. The use of parents as a primary source of information is especially valuable with respect to very young children whose language behaviors are strongly dependent on physical and social contexts in the home environment, and their interpretation is based on non-linguistic and extra-situational information.

This paper reports on a study in which we tested the usefulness of a parent questionnaire as a tool for collecting data on the prelinguistic behaviors of hearing impaired children. The goal of the study was to document the prelinguistic communicative development of a relatively large number of hearing impaired children, and to identify common characteristics among them despite the heterogeneity of the group (e.g., age, degree of hearing loss, age of onset). The prelinguistic children in "KESHER" population and their parents participated in this study.

The decision to include a parent questionnaire in "KESHER" assessment procedures was motivated by research as well as by practical/clinical reasons. It allowed us to involve parents in the assessment procedure of their own children. The active involvement of parents in describing their children's abilities contributes to the establishment of cooperation and responsibility regarding the child's

education and rehabilitation, and prevents the parents' feelings of helplessness or dependency on the professional staff. While working on the questionnaires, parents' awareness and academic understanding of prelinguistic communication is considerably enhanced. The questionnaire introduces to parents new concepts and terms, thus generating a shared system of terminology between them and the professional staff.

We selected a parent questionnaire that was originally constructed in Italy in 1992 by Camaioni, Caselli, Volterra and Luchenti for research with hearing infants. The questionnaire was translated into Hebrew and adapted for the use by parents of hearing impaired children. The revised version of the questionnaire includes information on the development of signs as well as gestures and speech.

The Camaioni et al. questionnaire was constructed on the basis of the following premises about the characteristics of early communication: (a) early communication is strongly dependent on physical and social routine contexts in which the child's needs are met (e.g. feeding or diaper changing), (b) early communication takes place not only in routine contexts, but also in play contexts in which parent-child interaction has no instrumental purpose other than to focus of the child's attention on communication itself rather than on its consequences.

The questionnaire presents six different contexts as a set of questions:

(1) WHAT DOES THE CHILD DO WHEN HE/SHE IS HUNGRY ?

(2) WHAT DOES THE CHILD DO WHEN HE/SHE WANTS TO GO OUT ?

(3) WHAT DOES THE CHILD DO WHEN HE/SHE WANTS A TOY ?

(4) WHEN THE PREFERRED PERSON IS ABSENT WHAT DOES THE CHILD DO TO CALL HIM/HER ?

5) WHEN YOU LOOK AT/READ A BOOK TOGETHER WHAT DOES THE CHILD DO ?

6) WHEN YOU PLAY 'PEEKABOO' TOGETHER WHAT DOES THE CHILD DO ?

Within each context a list of possible behaviors—communicative and noncommunicative—that might be exhibited by the child are specified. The parent is requested to indicate the frequency of each behavior as manifested by his/her child (often, sometimes, never).

Eight categories of analysis were used to code the child's behaviors: CRYING, INDEPENDENT BEHAVIOR, USE OF ADULT, POINTING, REFERENTIAL GESTURES, VOCALIZATIONS, WORDS, and SIGNS. Table 1 presents an example of one context—looking for a preferred person—the behaviors that are specified in it and their categories of analysis.

Table 1 about here

In addition to the six contexts of observation, the questionnaire includes three closed lists of early emerging gestures, words and signs. The list of signs was created by us, and the two other lists were modified to accord with Israeli culture and the Hebrew language. The parent is asked to mark on each list which are the gestures, words, and signs that the child produces, the situations in which they are observed, and how frequently the child uses gestures words and signs.

Our subjects were forty-eight prelinguistic hearing impaired children (21 girls and 27 boys) and their families, who participated in "KESHER" during the academic year of 1992-3. The majority of the children were profoundly hearing impaired (91+ dB) and were born to hearing parents (90%). Most of them were diagnosed even before the age of 18 months.

Two major research questions were tested: (1) Is the questionnaire appropriate for use with prelinguistic hearing impaired children? (2) What are the specific characteristics of prelinguistic communication of hearing impaired children? In this presentation we will discuss only the first question, which relates to the adaptation of the instrument to the population of hearing impaired children in Israel.

The appropriateness of the questionnaire was tested by means of reliability (verifying the reliability of parents' information) and validity (verifying the construct and content validity of the questionnaire). Inter-judge reliability that was computed between my observation and the observation of nine parents revealed a mean agreement of 86% in three contexts and 80% in the lists. These levels of agreement indicate that parent reports were quite similar to those of the trained observer.

In order to test whether the original taxonomy that was developed originally for analyzing prelinguistic behaviors in hearing infants is appropriate for use in a population of hearing impaired children, we performed Smallest Space Analysis

(SSA) on our group results. This statistical analysis examines the regularity and the consistency of test items with reference to:

(a) the categories selected for data analysis, and (b) the six contexts chosen for direct observation. The SSA reconstructs the distances between the average scores for each item in all the questionnaires and represents them visually in a multidimensional display. A relatively high correlation between the average scores of two or more items is signified by spatial proximity, while a relatively high negative correlation between the average scores of two or more items is presented by greater distance.

Figure 6 about here

Figure 6 presents the three-dimensional distribution of questionnaire items by the eight categories of analysis. We can see from the spatial distribution of items that the behaviors cluster together into two main subclasses of behaviors. While behaviors belonging to the categories of independent behavior, use of adult and pointing are concentrated in one place, the behaviors belonging to vocalizations, words, signs and crying appear fairly close to each other in another distinct place. Items belonging to gestures seem to be unrelated to any of the two subclasses, as they appear midway between the two.

Making the distinction between non-communicative behaviors on one hand, and later communicative and more symbolic behaviors on the other, is consistent with predictions made on the basis of previous developmental models of prelinguistic communication and early language development. The finding that hearing impaired children's pointing seem to be related to rather early and non-communicative functions is surprising. According to our knowledge of language development in hearing infants, the emergence of pointing is relatively late and indicative of a relatively developed level of prelinguistic communication (Caselli, 1990). We hypothesize that characteristics that are unique to our sample, for example, their relatively old age and their need to utilize visual means of communication, are the main effects in explaining this finding.

The examination of the internal organization of items belonging to the same analysis category shows that, nearly always, responses belonging to the same category appear relatively close to each other and seem to group together in distinct

and different location in the visual display. The only two categories that show a wide spread are crying and gestures.

These results indicate that the major categories of analysis proposed by Camaioni et al. on the basis of data obtained from hearing infants are appropriate for the analysis of prelinguistic behaviors of hearing impaired children, as well. The inconsistencies found in crying and gesture require further examination.

To sum up, this study demonstrated the usefulness of the parent questionnaire as both a research and a clinical tool for the assessment of prelinguistic communication in hearing impaired children. Our findings suggest that the majority of the parents of hearing impaired children are capable of providing reliable information on the prelinguistic abilities of their children by means of a structured questionnaire, in which a closed set of indices clearly define what to look for. We find the questionnaire sufficiently sensitive to distinguish between early non-communicative behaviors and later communicative and more symbolic behaviors. We recommend the adaptation of the categories of analysis that were proposed in the original tool with the addition of a category on the use of signs for the analysis of data coming from hearing impaired children.

Our experience with parents and caregivers who were given the questionnaires and completed them, shows that including parent questionnaires in the assessment of prelinguistic hearing impaired children is very useful. We find it particularly important for achieving better results in parental guidance. Clinicians have reported that the use of the questionnaire as a framework for directing parents at the initial phase of intervention was very fruitful. The questionnaire helped the parents to focus on different intentional communicative behaviors and made them aware of their importance for language development. We believe that the inclusion of the parents in the assessment of their child's communicative behavior increased the cooperation between them and the clinicians. It also strengthened the parents' sense of responsibility and control over the child's progress during the intervention.

On the basis of our experimental results, we have decided to incorporate the Camaioni et al. questionnaire in the prelinguistic assessment of all the new subjects who join "KESHER". We use the results of the questionnaires data together with

the information we gather by other means of language evaluation for setting the goals for early intervention.

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Appendices

Tables

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3 The different teams involved in the implementation of Kesher program 31
4 The expectations from the intervention program 32
5 The expectations from professionals 34
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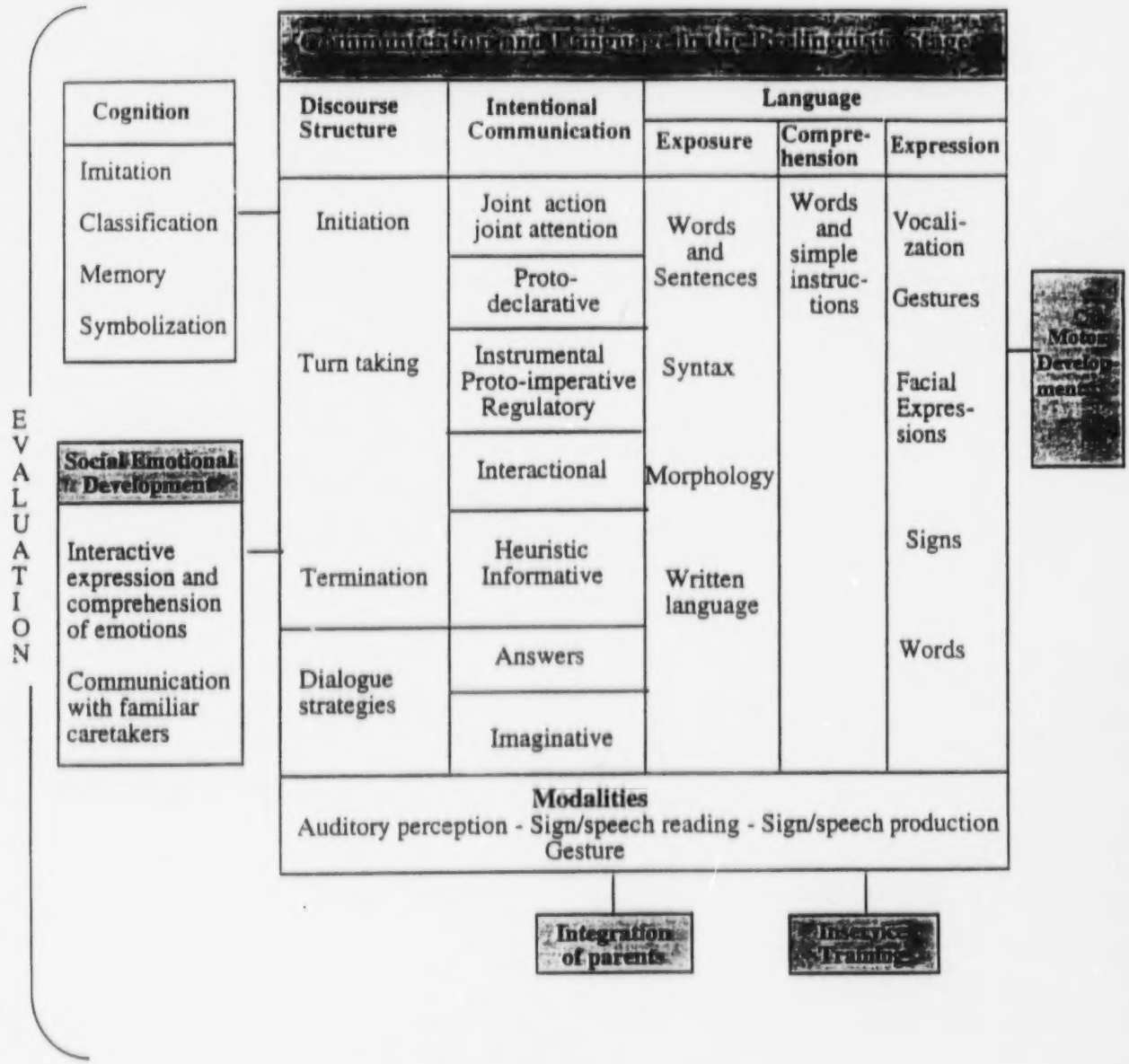
Figure 1

The Intervention Model for the Prelinguistic Stage



Experimental Edition

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Figure 2 **The Language Intervention Model for the One-Word Stage**

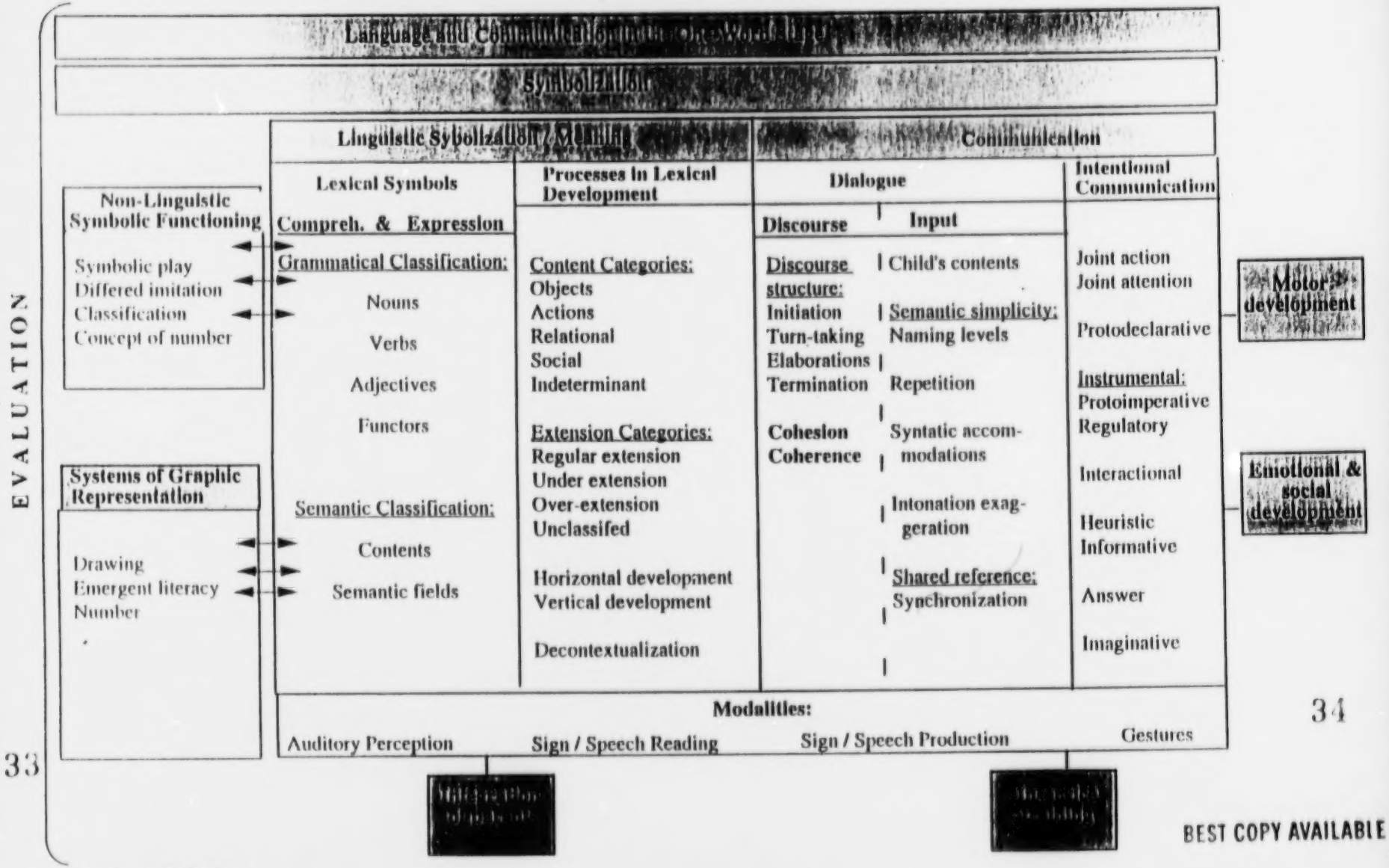

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Figure 3 The different teams involved in the implementation of Kesher program

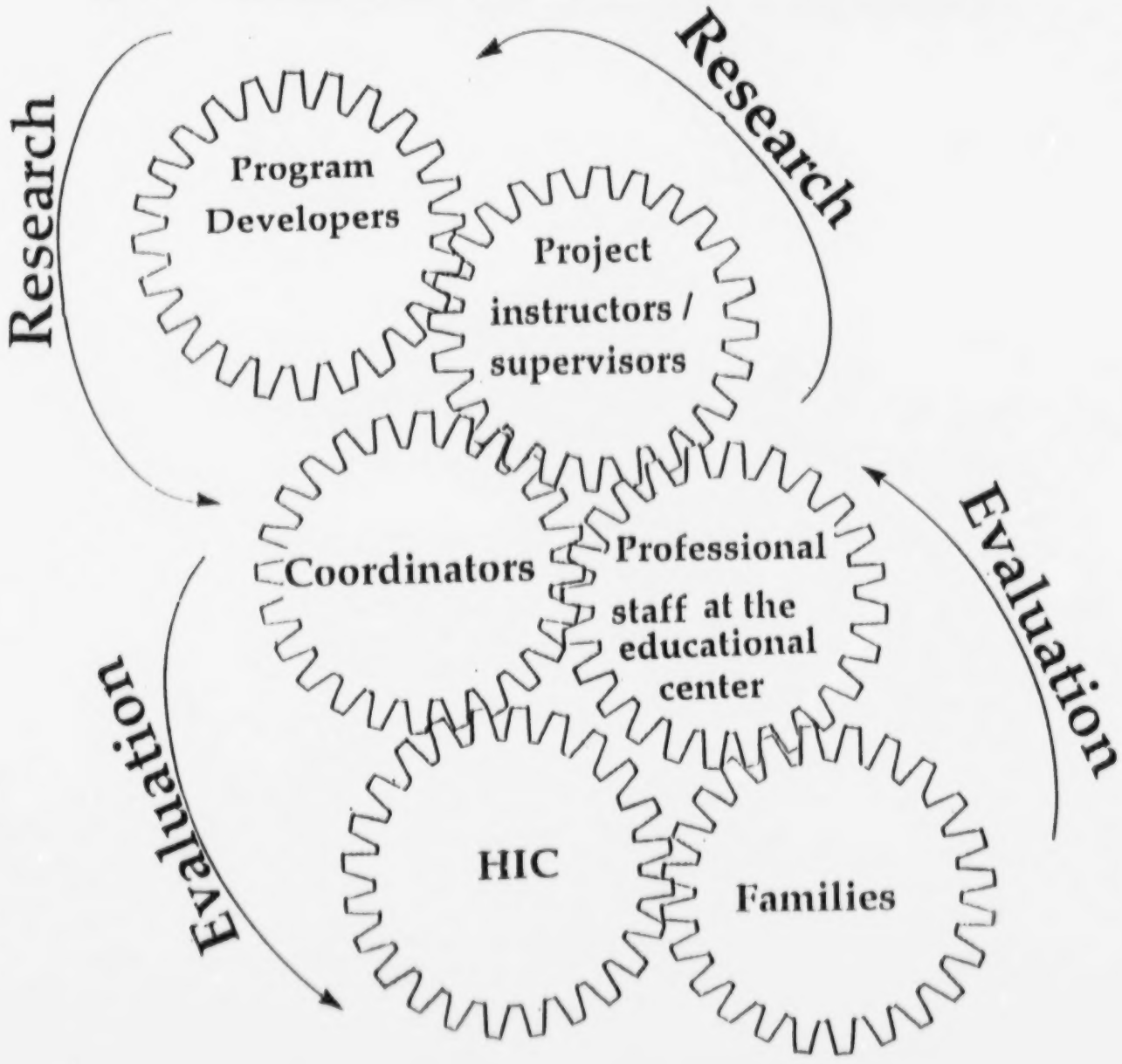
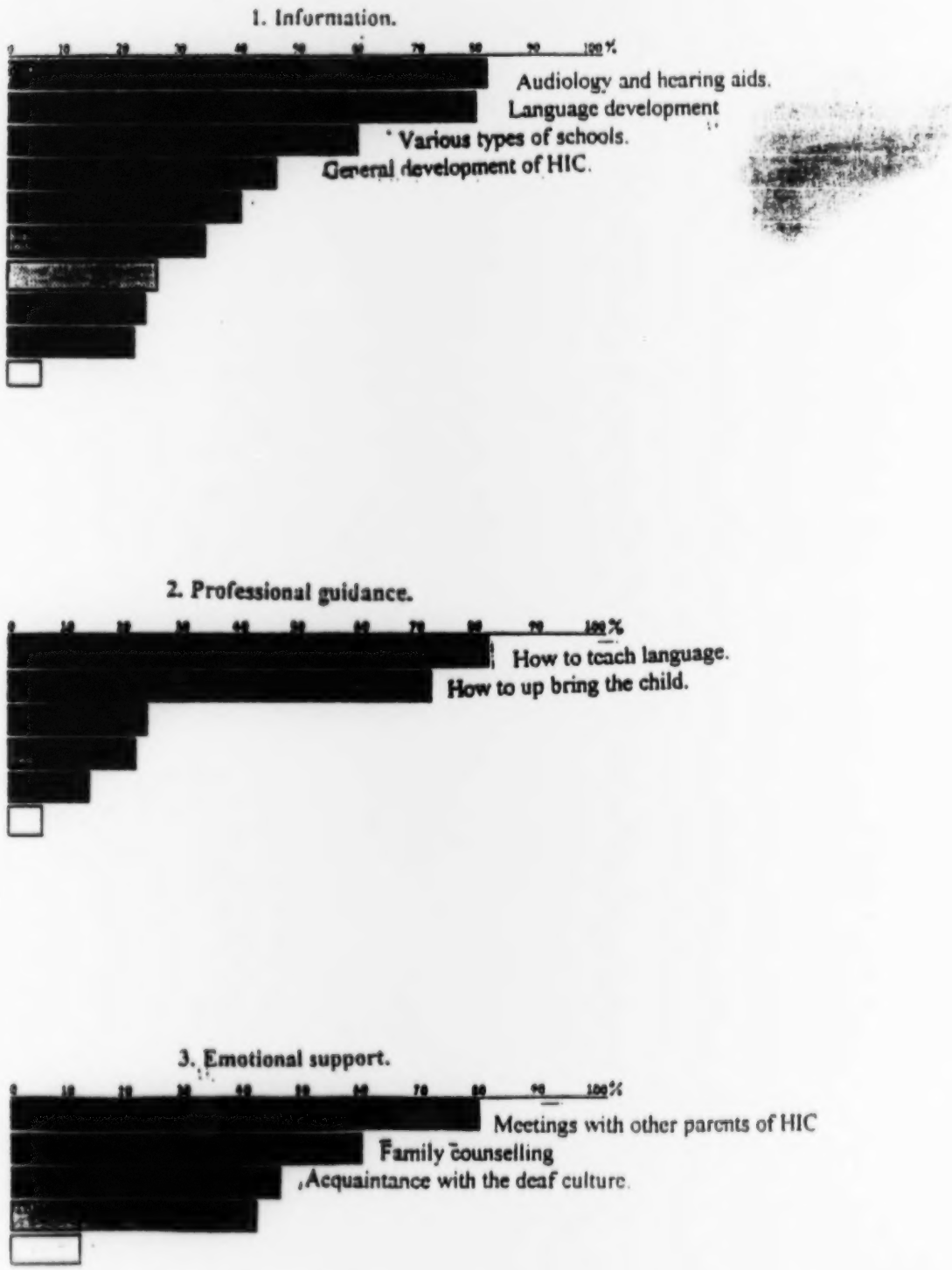


Figure 4

The expectations from the intervention program.



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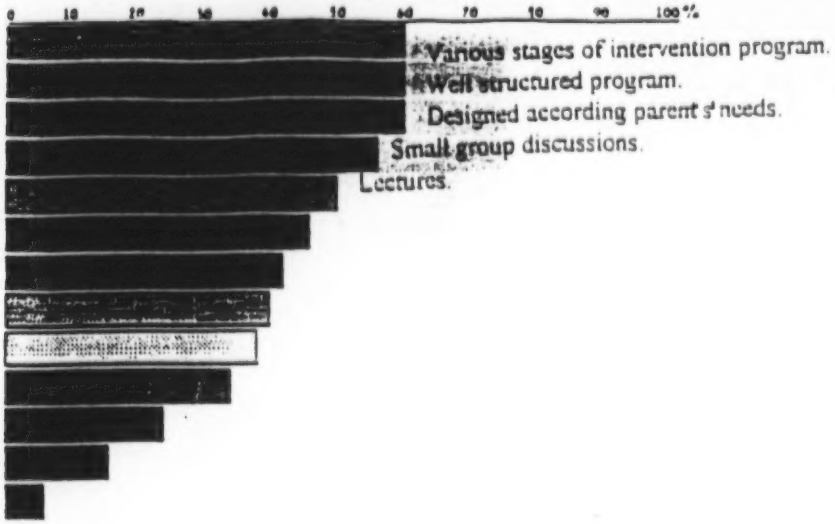
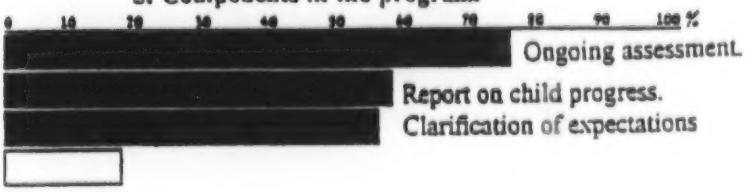
4. Structure and organisation of intervention.


0 10 20 30 40 50 60 70 80 90 100 %
Various stages of intervention program.
Well structured program.
Designed according parent's needs.
Small group discussions.
Lectures.

5. Components in the program.



6. Focus of intervention.

7. Services and facilities.

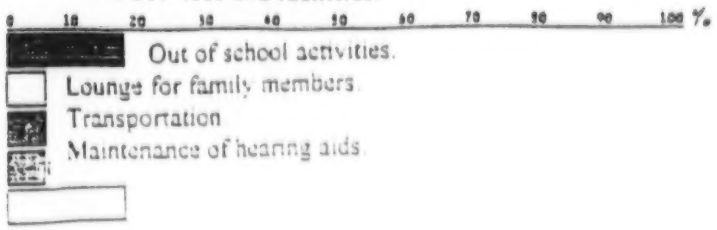
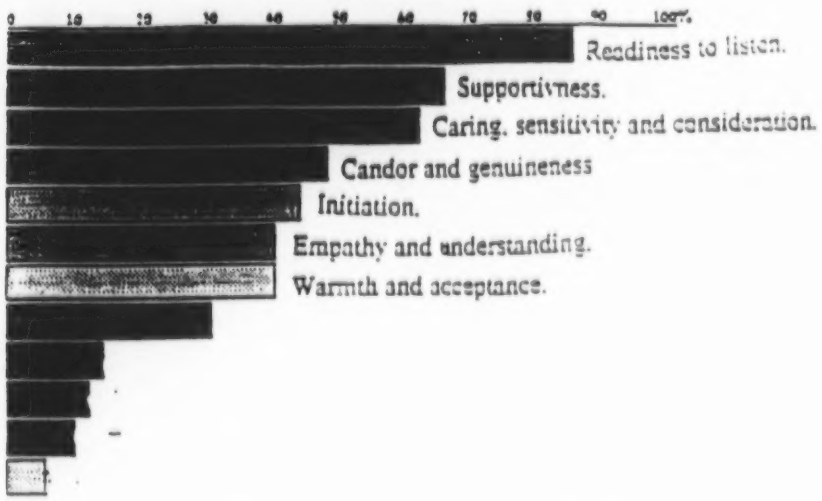

0 10 20 30 40 50 60 70 80 90 100 %
Out of school activities.
Lounge for family members.
Transportation
Maintenance of hearing aids.

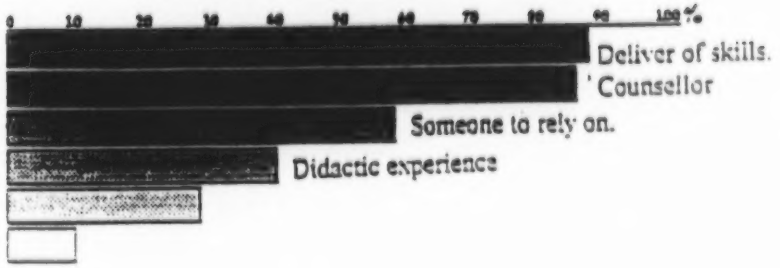
Figure 5

The expectations from professionals.

1. Qualities and interpersonal skills.



2. Professional expertise.



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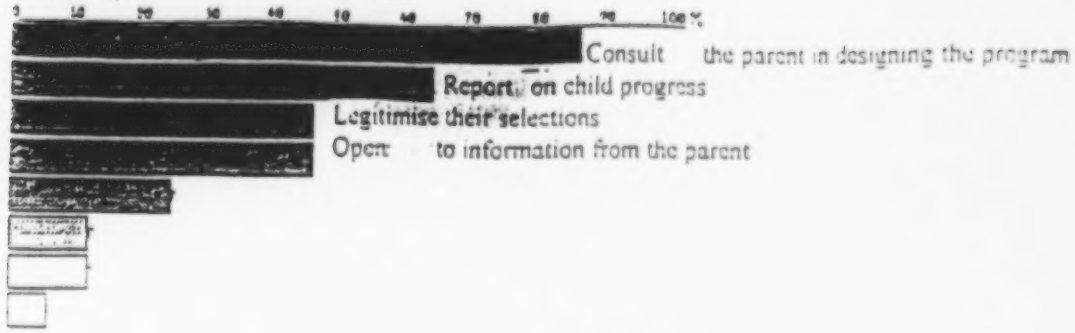
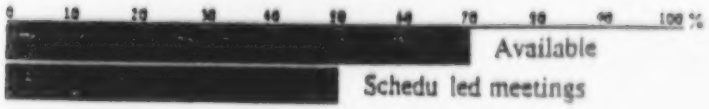
3.Cooperation with professionals.


Consult the parent in designing the program
Report on child progress
Legitimise their selections
Open to information from the parent

4. Regularity of meetings.



5. Contact person.

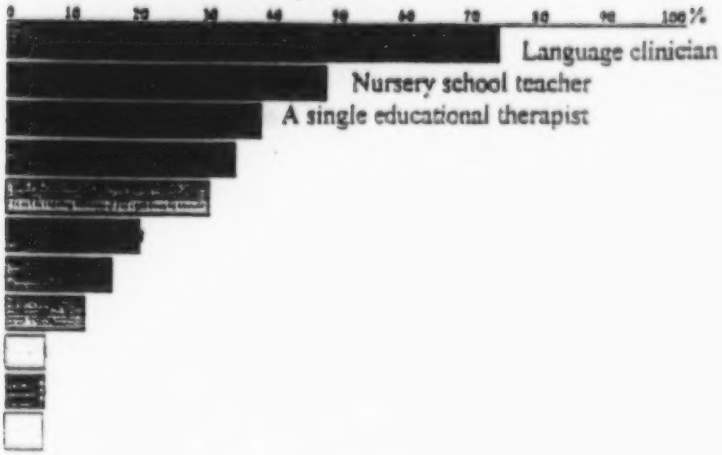


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Table 1: An example of one context--"looking for an absent person"--of the parent questionnaire and the behaviors that are specified in it.

When the preferred person is absent, what does the child do to call him/her ? *

(I) Looks for the person where he usually is / where the child expects to find him/her.

(C) Cries.

(A) Takes an adult who is present to the place where the absent person might be.

(P) Points to the place where the absent person usually is.

(G) Indicates by gesture or facial expression that he is looking for the absent person.

(V) Vocalizes to call the person.

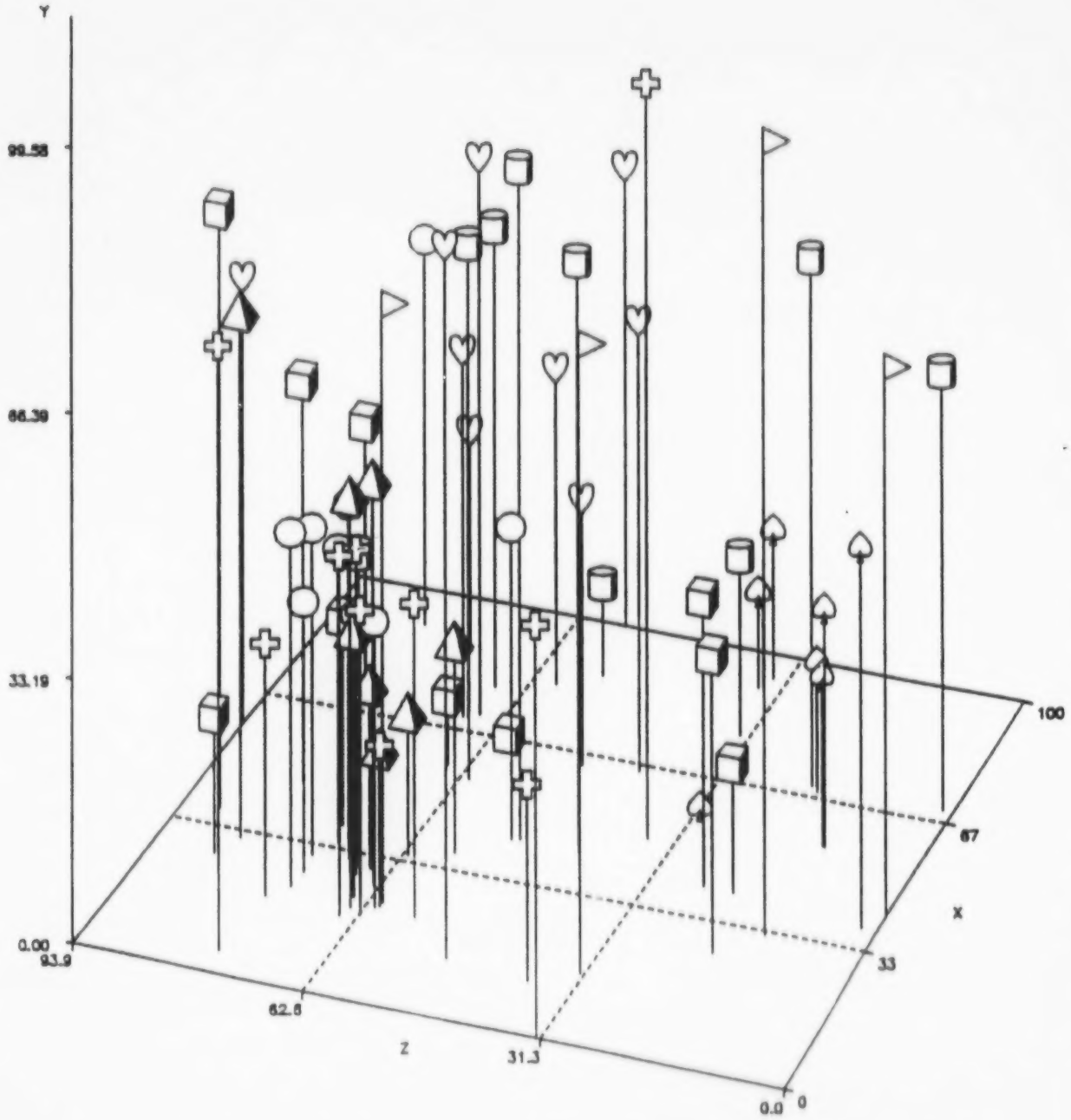
(W) Uses a word to call the person.

(S) Uses a sign to call the person.

---

* in brackets are the initials of the categories of analysis:
C - Crying
I - Independent behavior
A - Use of adult
P - Pointing
G - Referential gestures
V - Vocalizations
W - Words
S - Signs

Figure 6 : Results of the Smallest Space Analysis - A three-dimensional distribution of all questionnarie items for the sample as a whole by the eight categories of analysis.



cross=independent flag=cry balloon=pointing pyramid=adult
cube=gesture cylinder=vocalization heart=word spade=sign